

Title (en)

ALTERNATING VOLTAGE INTEGRATOR FOR PRODUCING A VOLTAGE SIGNAL WHICH IS PROPORTIONAL TO ONE FLUX COMPONENT IN A ROTATING-FIELD MACHINE; THE USE OF TWO OF SUCH ALTERNATING VOLTAGE INTEGRATORS IN CONNECTION WITH A ROTATING-FIELD MACHINE DRIVE, AND A METHOD OF OPERATING SUCH A DRIVE

Publication

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Application

EP 79102476 A 19790716

Priority

DE 2833542 A 19780731

Abstract (en)

[origin: US4282473A] A drive for a rotating field machine which has two AC voltage integrators of identical design for forming two electric voltage signals each of which is proportional to a flux component in the machine. Each voltage integrator includes an integrator and a zero-controller having negative feedback for suppressing the DC component of input voltages fed to a summing point of the integrator. Each integrator, is fed, as one input voltage, a voltage proportional to the phase-voltage belonging to the flux component and a voltage proportional to the corresponding stator current in a machine supply lead, for compensating the ohmic stator voltage drop. A second voltage, also depending on the phase current, is processed to compensate for the inductive stator voltage drop. To ensure optimum converter and machine utilization over an increased speed control range by reducing the phase errors of the determined flux components, each zero-controller includes a proportional controller and an integrated controller having output signals fed to the summing point. The output signal of the integrator, corrected for the ohmic stator voltage drop and the inductive stray voltage, is fed, weighted proportionally to the frequency of the machine, to the input of the proportional controller, and weighted proportionally to the square of the frequency, to the input of the integrated controller, the weighting factor having a maximum value of 1.

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IPC 8 full level

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